Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation

Academic Program Specification Form For The Academic

University:
College :
Department :
Date Of Form Completion :

Dean's Name
Date : / /
Signature

Dean's Assistant For Scientific Affairs
Date : / /
Signature

Head of Department
Date : / /
Signature

Quality Assurance And University Performance Manager Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Program Specification provides a concise summary of the main features of the program and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the program.

1. Teaching Institution	Collage of Medicin \ University of Anbar
2. University Department/Centre	Department of Microbiology
3. Program Title	PhD. degree in Medical Microbiology
4. Title of Final Award	PhD. Medical Microbiology
5. Modes of Attendance offered	Curses in advanced Medical Microbiology
6. Accreditation	The program is accredited by the Ministry of Higher Education, and Iraqi governorate.
7. Other external influences	UNESCO.
8. Date of production/revision of this specification	June 11, 2024
9. Aims of the Program	
1- Graduates are capable of theorizing, researching and discovering in the field of medical microbiology.	
2- Graduates are capable of diagnosing rare cases of bacterial diseases by conducting complex analyses at rates of biological security that exceed both.	
3- Graduates are capable of conducting developmental research in the field of bacterial diseases according to the needs of health institutions and the needs of the country.	
4- Graduates are able to possess the scientific mechanism in research and discovery and have the ability to train advanced scientific stuff.	
5- Preparing leadership leaders in medical laboratory sciences and pathological analyses to meet the needs of the state's health and educational institutions.	
6- Raising the experience of graduates in advanced laboratory equipment.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A- Cognitive objectives

A1- Delving in the medical microbiology until reaching the scientific basis philosophy.

A2- Teaching the student the scientific basis in imposing the theory and proving it in the world of medical microbiology.

A3- Enabling the student to link human immunology and bodily changes to their various bacterial causes.

A4- Enabling the student to understand the methods for bacterial diagnosis and how to improve or benefit from them.

A5- Enlightening the student on modern, appropriate, non-traditional methods in combating germs, especially germs that are multi-resistant to antibiotics.

A6- Introducing the student to genetic diseases, modern gene therapy methods, and genetic vaccines.

A7- Advanced knowledge in the philosophy of parasitic, worm, and fungal diseases and their modern diagnostic methods.

A8- Studying the pathophysiological aspects of all infections with their various causes, and pathogenic immune reactions that lead to diseases due to those harmful immune reactions.

A9- Preparing an advanced analyst in combating pandemics and epidemics capable of early diagnosis before the pandemic and epidemics occur in the country.

B. Subject-specific skills

B1 - Ability to perform laboratory tests to diagnose pathogenic bacteria using methods that keep pace with scientific development.

B2 - Ability to perform laboratory tests to diagnose pathogenic viruses.

B3 - Ability to perform laboratory tests to diagnose pathogenic fungi and parasites.

B4 - Skills in laboratory equipment related to the specialty and its advanced technologies.

B5 - Acquiring skills in methods and techniques of genetic and hereditary diagnosis and how to manufacture special primers for each test.

Teaching and Learning Methods

1- Throw lectures, seminars and workshops.
2- Conducting laboratory experiments.
3- Sessions on interpreting the inferred results.
4- Small study groups.
5- Sessions on how to reach a diagnosis of the disease through medical and clinical laboratory tests.
6- Lectures on research methods and advanced statistical analysis methods.

Assessment methods

1- Written mid-term exams.
2- Written final exams.
3- Daily assessments in theory and practice.
4- Daily assessments in the form of solving a problem for a bacterial disease using the analytical methods.

C. Thinking Skills

C1. Field practice for a year in health institutions and hospitals.

C2. Teaching the student the art of publication, and scientific methods of discussion and interpretation of research results.

C3. Teaching the student communication skills, and how to obtain research samples.

C4. Teaching the student the ethics of scientific research and international agreements on human and animal rights in research.

Teaching and Learning Methods
1- Lectures. 2- Each student’s direct supervision by a faculty member holding the title of Assistant Professor or above. 3- Direct supervision of each student by a teaching physician holding the title of Assistant Professor or above or a consultant physician in the Ministry of Health.
Assessment methods
The branch is provided every month with a detailed report on the student’s work and professional conduct, determining whether the student will continue his research or be suspended or prevented from studying by the supervisors.

D. General and Transferable Skills (other skills relevant to employability andpersonal development).
D1. The student conducts specialized research on a pathogenic microbe that enables him to gain comprehensive knowledge about it. D2. The student will gain a qualified knowledge on methods of reach, laboratory diagnosis for that microbe. D3. Enabling the student to know the quality for each laboratory diagnostic method. D4. Enabling the student to find differences and similarities in specialized analyses of that microbial investigations.
Teaching and Learning Methods
1- Advanced specialized lectures on the pathological diagnosis of the student's specific research. 2- Practical application of specialized experiments under the supervision of specialized supervisors on the student's disease. 3- Re-implementing the analysis at least one hundred times to acquire the skill, identify work errors, and trouble shootings.
Assessment Methods
1- A monthly report on the student's personal evaluation, and work by two supervisors. 2- Statistical evaluation of the validity of the summarized results of the research. 3- External scientific evaluation of the validity of the research results. 4- Evaluation of the research by the discussion committee.

11. Program Structure							12. Awards and Credits
Level/Year	Course or Module Code	Course or ModuleTitle	Creditrating				
First course	MP2801	Protozoa	3				PhD Degree Requires (x) credits
	MP2802	Pathology	1				
	MM2803	Mycology	1				
	MH2804	Human genes & gene therapy	2				
	MR1805	Research methodology	4				
	MV2806	Virology	4				
Sec. course	MM2807	Molecular Biology	3				
	MI2808	Immunology	4				
	MH2809	Helminthology	4				
	MD2810	Diagnostic Bacteriology	4				
	ME1811	English translation	1				
PhD research		Research project	Sample collection	Sample analysis	Result analysis	Thesis writing	
			6 Months	6 Months	3 Months	6 Months	

12. Personal Development Planning

In the research year, the student will learn to function as part of a scientific research groups with different titles and positions to reach a result that satisfies everyone and contributes to developing ways to reach the cure of patients from the germ that the student specializes in. He is also trained to plan the research project using standard scientific methods and means before proceeding with the work. This will give him a future leadership ability that enables him to reach the diagnosis or supervision of research and even education and training.

13. Admission criteria .

The student who holds a MSc. degree in Medical microbiology and has the below-mentioned specializations is accepted, provided that he undergoes a scientific clearing in which the percentage of difference from the curriculum does not exceed five percent, and the following subjects are the basis for clearance:

1- Pathological protozoa.
2- Human pathology.
3- Pathogenic fungi.
4- Biological statistics.
5- Research methods.
6- Pathogenic viruses.
7- Molecular biology.
8- Human immunity.
9- Pathogenic worms.
10- Physiology of bacteria.
11- Bacterial diagnosis.

14. Key sources of information about the program

1- Modern scientific references
2- Virtual library
3- The Internet
4- Theses and dissertations in the specialty.
5- Scientific journals

Curriculum Skills Map																			
please tick in the relevant boxes where individual Program Learning Outcomes are being assessed																			
				Program Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O)	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**

COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the program specification.

1. Teaching Institution	College of Medicin\ University of Anbar
2. University Department/Centre	Department of Microbiology
3. Course title/code	Medical Protozoa/ MP2801
4. Program(s) to which it contributes	PhD. in Medical Microbiology
5. Modes of Attendance offered	Classroom lectures
6. Semester/Year	Semester
7. Number of hours tuition (total)	45 hrs.
8. Date of production/revision of this specification	June 12, 2024
9. Aims of the Course	
1- Enabling students to classify medically important protozoa according to associated diseases.	
2- Students gain knowledge of international standard methods for diagnosing medically protozoa.	
3- Students gain practical experience. Ability to interpret laboratory results.	

Short exams	Lect.&Lab train	Introduction	Introduction	1T+2P	1
=	=	Pathogenic Amoeba	Pathogenic Amoeba	1T+2P	2
=	=	None Amoeba	None Amoeba	1T+2P	3
=	=	Free Living Amoeba	Free Living Amoeba	1T+2P	4
=	=	Intestinal flagellates	Intestinal flagellates	1T+2P	5
=	=	Trypanosomiasis	Trypanosomiasis	1T+2P	6
		Seminar		1T+2P	7
=	=	Leishmaniasis	Leishmaniasis	1T+2P	8
=	=	Sporozoa/Plasmodium1	Sporozoa/Plasmodium1	1T+2P	9
=	=	Plasmodium 2, Babesia	Plasmodium 2, Babesia	1T+2P	10
=	=	Toxoplasmosis &Sarcocyst	Toxoplasmosis &Sarcocyst	1T+2P	11
=	=	Intestinal sporozoan	Intestinal sporozoan	1T+2P	12
=	=	Ciliates/Balantidium coli	Ciliates/Balantidium coli	1T+2P	13
		Seminar		1T+2P	14
		Final exam		1T+2P	15

1. Teaching Institution	College of Medicin\ University of Anbar
2. University Department/Centre	Department of Microbiology
3. Course title/code	Human pathology
4. Program(s) to which it contributes	PhD. in Medical Microbiology
5. Modes of Attendance offered	Classroom lectures
6. Semester/Year	Semester
7. Number of hours tuition (total)	15 hrs.
8. Date of production/revision of this specification	June 12, 2024
9. Aims of the Course	
1- Introducing the student to human pathology.	
2- Enabling the student to understand laboratory diagnostic methods.	
3- Training the student on methods for deriving results.	
4- Enabling the student to diagnose advanced diseases.	

11.course structure

Assessment Method	Teaching Method	ILOs	Unit/Module or Topic Title	hours	Week
Short exam	Lectures		Cell adaptation	T1	1
=	=		Irreversible cell changes	T1	2
=	=		Inflammation 1	T1	3
=	=		Inflammations 2	T1	4
=	=		Vascular disease	T1	5
=	=		Hematologic	T1	6
		Seminar		T1	7
=	=		Neoplasia 1	T1	8
=	=		Neoplasia 2	T1	9
=	=		Immune disorders 1	T1	10
=	=		Infection disease 1	T1	11
=	=		Infection disease 2	T1	12
=	=		Healing	T1	13
=	=		Genetic disorders	T1	14
		Final exam		T1	15

1. Teaching Institution	College of Medicin\ University of Anbar
2. University Department/Centre	Department of Microbiology
3. Course title/code	Molecular Biology/ MM2807
4. Program(s) to which it contributes	PhD. in Medical Microbiology
5. Modes of Attendance offered	Classroom lectures
6. Semester/Year	Semester
7. Number of hours tuition (total)	45 hrs.
8. Date of production/revision of this specification	June 12, 2024
9. Aims of the Course	
1- Enabling students to recognize the molecular diagnosis of microorganisms.	
2- Students acquire advanced knowledge in molecular biological examinations.	
3- Students gain practical experience. Methods of interpreting results for molecular tests	

11.course structure

Assessment Method	Teaching Method	ILOs	Unit/Module or Topic Title	Hours	Wk.
Short exam	Lectures & Lab training	Principles and essentials of nucleic acids:- structure, function, replication	Principles and essentials of nucleic acids:- structure, function, replication	T2+P2	1
=	=	Central dogma for molecular biology- Protein synthesis	Central dogma for molecular biology- Protein synthesis	T2+P2	2
=	=	Genomic mutations & gene rearrangement	Genomic mutations & rearrangement	T2+P2	3
=	=	Gene therapy &its application in medicine	Gene therapy	T2+P2	4
=	=	Epigenetics:- -Definition, History, How it works -Mechanisms of epigenetics -Epigenetics and embryo development -Types of epigenetic modifications	Epigenetics:- -Definition, History, How it works -Mechanisms of epigenetics -Epigenetics & embryo development -Types of epigenetic modifications	T2+P2	5
=	=	Molecular cloning and hybridization -Restriction enzymes -Cell based approach	Molecular cloning and hybridization -Restriction enzymes -Cell based approach	T2+P2	6
		Seminar		T2+P2	7
=	=	Polymerase Chain reaction:- -Conventional PCR -Nested PCR -Reverse transcriptase PCR -Quantitative real time PCR (qRT-PCR)	Polymerase Chain reaction:- -Conventional PCR -Nested PCR -Reverse transcriptase PCR -Quantitative PCR (qRT-PCR)	T2+P2	8
=	=	Forensic DNA technology:- -Nuclear and mitochondrial DNA -DNA profile & fingerprinting	Forensic DNA technology:- -Nuclear and mitochondrial DNA -DNA profile & fingerprinting	T2+P2	9
=	=	Sequencing and NGS & Whole gene seq. -Exome sequencing	Sequencing and NGS -Exome sequencing & HGS	T2+P2	10
=	=	Cytogenetic:- -Introduction to cytogenetic -Milestones in cytogenetic -Indications for cytogenetic analysis -Approach to cytogenetic analysis -Chromosomal classifications	Cytogenetic:- -Introduction to cytogenetic -Milestones in cytogenetic -Indications for cytogenetic analysis -Approach to cytogenetic analysis -Chromosomal classifications	T2+P2	11
=	=	Updated molecular tools used for clinical diagnosis	Updated molecular tools used for clinical diagnosis	T2+P2	12
		Methods for diagnosis	Cl. Chromosomal abnormalities	T2+P2	13
			Karyotyping	T2+P2	14
		Final exam			15

1. Teaching Institution	College of Medicin\ University of Anbar
2. University Department/Centre	Department of Microbiology
3. Course title/code	Helminthology/ MH2809
4. Program(s) to which it contributes	PhD. in Medical Microbiology
5. Modes of Attendance offered	Classroom lectures
6. Semester/Year	Semester
7. Number of hours tuition (total)	45 hrs.
8. Date of production/revision of this specification	June 12, 2024
9. Aims of the Course	
1- Teaching the student to classify pathogenic worms.	
2- Enable the student to link worms with clinical signs.	
3- Training the student on diagnostic tests used internationally and locally.	
4- Enable the student to interpret laboratory results for helminth diseases	

11.course structure

Assessment Method	Teaching Method	ILOs	Unit/Module or Topic Title	hours	Week
Short exam	Lect.& Lab train	Introduction	Introduction	T2+P2	1
=	=	Trematodes Liver flukes	Trematodes Liver flukes	T2+P2	2
=	=	Intestinal flukes	Intestinal flukes	T2+P2	3
=	=	Blood flukes	Blood flukes	T2+P2	4
=	=	Cestodes/ T. Solium &T. saginata	Cestodes/ T. Solium &T. saginata	T2+P2	5
=	=	Hydatidosis	Hydatidosis	T2+P2	6
			Seminar	T2+P2	7
=	=	Hydatidosis	Hydatidosis	T2+P2	8
=	=	Hymenolipiasis Dipyllidiasis Diphylbothriasis	Hymenolipiasis Dipyllidiasis Diphylbothriasis	T2+P2	9
=	=	Nematodes T. trichura	Nematodes T. trichura	T2+P2	10
=	=	Ascariasis Enterobiasis	Ascariasis Enterobiasis	T2+P2	11
=	=	Ancylostomiases	Ancylostomiases	T2+P2	12
=	=	Strongyodiasis Larvae migrans	Strongyodiasis Larvae migrans	T2+P2	13
		Filariasis	Filariasis	T2+P2	14
			Final exam & evaluation	T2+P2	15

1. Teaching Institution	College of Medicin\ University of Anbar
2. University Department/Centre	Department of Microbiology
3. Course title/code	Research Methodology/ MR1805
4. Program(s) to which it contributes	PhD. in Medical Microbiology
5. Modes of Attendance offered	Classroom lectures
6. Semester/Year	Semester
7. Number of hours tuition (total)	45 hrs.
8. Date of production/revision of this specification	June 12, 2024
9. Aims of the Course	
1- Comprehending, scientific research and its conditions.	
2- Expanding the student's understanding to reach sound scientific output.	
3- Training the student on methods of publishing and academic reputation.	
4- Enabling the student to analyze the data to arrive at a scientific explanation Logical.	

11.course structure

Ass. Meth	Teach. Meh.	ILOs	Unit/Module or Topic Title	Hours	Wk.
Short exam	Lectures & Lab training	Introduction to Statistical Package for the Social Sciences (SPSS)	Study design (observational or Non-experimental study)	2ع2+ ن	1
=	=		Study design (Non experimental study)	2ع2+ ن	2
=	=	Enter Data in SPSS and Data definition in SPSS	Cross-sectional Studies	2ع2+ ن	3
=	=	Subscribe with Anbar medical Journal	Case–control studies and Cohort studies	2ع2+ ن	4
=	=	Manuscript evaluation & revision	Basic structure & types of medical research paper	2ع2+ ن	5
=	=	Evaluation of scientific research by students	Publishing in a standard peer-reviewed M. journal	2ع2+ ن	6
=	=	Writing a discussion of scientific research	Create & Manage Your Academic Researcher Profile	2ع2+ ن	7
=	=	Writing a scientific article	Citation of Medical scientific research	2ع2+ ن	8
=	=	Writing a research review	Artificial intelligence and scientific research	2ع2+ ن	9
=	=	Selecting update references for scientific research	Randomized controlled trials (RCTs)	2ع2+ ن	10
=	=	Applying Grammarly software in scientific writing for research	Sampling and sample size	2ع2+ ن	11
=	=	Cleaning of Qualitative and Quantitative Data and missing value in SPSS	Endnote and Mendeley for Reference manger		12
=	=	Descriptive statistics for Qualitative variables and Quantitative variables in SPSS	Meta-analysis and systemic review articles		13
=	=	Correlation and Regression, Odds Ratio & Relative risk and Pre-Post tests in SPSS	Google scholar, ORICID, Research gate		14
=	=		Writing research paper for publication		15

1. Teaching Institution	College of Medicin\ University of Anbar
2. University Department/Centre	Department of Microbiology
3. Course title/code	Medical mycology/ MM2803
4. Program(s) to which it contributes	PhD. in Medical Microbiology
5. Modes of Attendance offered	Classroom lectures
6. Semester/Year	Semester
7. Number of hours tuition (total)	15 hrs.
8. Date of production/revision of this specification	June 12, 2024
9. Aims of the Course	
1- Comprehending about fungal diseases.	
2- Teaching the student the methods used to diagnose fungal diseases.	
3- Training the student to derive results and ways to interpret them	
4- Enabling the student to conduct a logical analysis of the causes of fungal diseases	

11.course structure

Assessment Method	Teaching Method	ILOs	Unit/Module or Topic Title	hours	Wk.
Short exam	Lectures	Introduction to medical Mycology	Introduction to medical Mycology	T2	1
=	=	Cutaneous Mycology	Cutaneous Mycology	T2	2
=	=	Subcutaneous Mycology	Subcutaneous Mycology	T2	3
=	=	Histoplasmosis	Histoplasmosis	T2	4
=	=	Opportunistic syst. mycosis	Opportunistic syst. mycosis	T2	5
=	=	Nocardiosis	Nocardiosis	T2	6
		Seminar		T2	7
=	=	candida	candida	T2	8
=	=	cryptococcus	cryptococcus	T2	9
=	=	Mycotoxin	Mycotoxin	T2	10
=	=	Aspergillosis	Aspergillosis	T2	11
=	=	Antifungal Agents	Antifungal Agents	T2	12
=	=	Biofilm	Biofilm	T2	13
=	=	Systemic Mycosis	Systemic Mycosis	T2	14
		Final exam		T2	15

1. Teaching Institution	College of Medicin\ University of Anbar
2. University Department/Centre	Department of Microbiology
3. Course title/code	Medical Virology/MV2806
4. Program(s) to which it contributes	PhD. in Medical Microbiology
5. Modes of Attendance offered	Classroom lectures
6. Semester/Year	Semester
7. Number of hours tuition (total)	45 hrs.
8. Date of production/revision of this specification	June 12, 2024
9. Aims of the Course	
1- Introducing the student to the science of pathogenic viruses.	
2- Enabling the student to understand the diagnostic methods used for viruses.	
3- Training the student on methods for deriving and analyzing results.	
4- Enabling the student to know the progress made in virology.	

11.course structure

Assessment Method	Teaching Method	ILOs	Unit/Module or Topic Title	hours	Wk.
Short exam	Lectures & Lab training	**Introduction of Human viruses**	**Introduction of Human viruses**	T1+P2	1
=	=	**Replication of viruses with atypical viruses**	**Replication of viruses with atypical viruses**	T1+P2	2
=	=	**Vaccination against viruses**	**Vaccination against viruses**	T1+P2	3
=	=	**Pathogenesis of the viruses**	**Pathogenesis of the viruses**	T1+P2	4
=	=	**Antiviral therapy with interferons**	**Antiviral therapy with interferons**	T1+P2	5
=	=	**Herpesvaridae and Poxvaridae**	**Herpesvaridae and Poxvaridae**	T1+P2	6
=	=	**Adenoviruses, Human Papilloma viruses and Parvovirus**	**Adenoviruses, Human Papilloma viruses and Parvovirus**	T1+P2	7
=	=	**Orthomyxovaridea include influenza viruses**	**Orthomyxovaridea include influenza viruses**	T1+P2	8
=	=	**Picoranvaridae**	**Picoranvaridae**	T1+P2	9
=	=	**Rota virus, calici, astrovirus infection**	**Rota virus, calici, astrovirus infection**	T1+P2	10
=	=	**Hepatitis viruses**	**Hepatitis viruses**	T1+P2	11
=	=	**Retrovaridae include HIV**	**Retrovaridae include HIV**	T1+P2	12
=	=	**Coronaviruses**	**Coronaviruses**	T1+P2	13
=	=	**Rhabdovaridae)Rabies virus(and Rotaviruses**	**Rhabdovaridae)Rabies virus(and Rotaviruses**	T1+P2	14
=	=	**Yellow and Haemorrhagic fever viruses**	**Yellow and Haemorrhagic fever viruses**	T1+P2	15
=	=	**Zinka virus**	**Zinka virus**	T1+P2	16

1. Teaching Institution	College of Medicin\ University of Anbar
2. University Department/Centre	Department of Microbiology
3. Course title/code	Medical Immunology/ MI2808
4. Program(s) to which it contributes	PhD. in Medical Microbiology
5. Modes of Attendance offered	Classroom lectures
6. Semester/Year	Semester
7. Number of hours tuition (total)	45 hrs.
8. Date of production/revision of this specification	June 12, 2024
9. Aims of the Course	
1- Teaching the student the basics of immunity for the human body.	
2- Expanding the student's awareness of what immunology has recently achieved.	
3- Training the student on the immunological tests used internationally and nationally.	
4- Enabling the student to diagnose immune diseases.	

11.course structure

Ass. Met.	Teaching Method	ILOs	Unit/Module or Topic Title	Hours	Wk.
Short exam	Lect. & Lab training	Introduction to Imm.	Introduction to Immunity	T2+P2	1
=	=	Cells & organs of immunity	Cells & organs of immunity	T2+P2	2
=	=	CMI & HI	CMI & HI	T2+P2	3
=	=	Complement System	Complement System	T2+P2	4
=	=	Cytokines	Cytokines	T2+P2	5
=	=	Hyper sensitivity	Hypersensitivity	T2+P2	6
=	=	Immune response	Immune response	T2+P2	7
=	=	Immune response to infectious disease	Immune response to infectious disease	T2+P2	8
=	=	Immunoglobulin	Immunoglobulin	T2+P2	9
=	=	MHC	MHC	T2+P2	10
=	=	Organ transplantation	Org. transplantation	T2+P2	11
=	=	T cell matu. & Activation	T cell maturation & Activation	T2+P2	12
=	=	Vaccine	Vaccine	T2+P2	13
=	=	Autoimmune disease	Autoimm. disease	T2+P2	14
=	=	Cancer	Cancer	T2+P2	15

1. Teaching Institution	College of Medicin\ University of Anbar
2. University Department/Centre	Department of Microbiology
3. Course title/code	Human gene & Gene therapy/ MH2804
4. Program(s) to which it contributes	PhD. in Medical Microbiology
5. Modes of Attendance offered	Classroom lectures
6. Semester/Year	Semester
7. Number of hours tuition (total)	30 hrs.
8. Date of production/revision of this specification	June 12, 2024
9. Aims of the Course	
1- Enabling students to understand research statistics.	
2- Practicing the student on ways to write statistical tables.	
3- Enabling the student to derive research results.	

11.course structure

Ass. Met.	Teaching Method	ILOs	Unit/Module or Topic Title	Hours	Wk.
Short exam	Lect. & Lab training		Omics technology	T2	1
=	=		Genomics and proteomics	T2	2
=	=		GENOMICS 1	T2	3
=	=		GENOMICS 2	T2	4
=	=		Types of genomics 1	T2	5
=	=		Types of genomics 2	T2	6
		Seminar		T2	7
=	=		Phage therapy 1	T2	7
=	=		Phage therapy 2	T2	8
=	=		Microarray technology	T2	9
=	=		GENE Therapy: present and future	T2	10
=	=		GENE Therapy	T2	11
=	=		Genom editing technology CRISPR	T2	12
=	=		Human genomic project	T2	13
=	=	Final exam		T2	14

1. Teaching Institution	College of Medicin\ University of Anbar
2. University Department/Centre	Department of Microbiology
3. Course title/code	Diagnostic Bacteriology/ MD2810
4. Program(s) to which it contributes	PhD. in Medical Microbiology
5. Modes of Attendance offered	Classroom lectures
6. Semester/Year	Semester
7. Number of hours tuition (total)	45 hrs.
8. Date of production/revision of this specification	June 12, 2024
9. Aims of the Course	
1- Enabling students to understand research statistics.	
2- Practicing the student on ways to write statistical tables.	
3- Enabling the student to derive research results.	

11.course structure

Ass. Met.	Teaching Method	ILOs	Unit/Module or Topic Title	Hours	Wk.
Short exam	Lect. & Lab training	Techn. In sample collection	Specimen Collection & Transport	T2+P2	1
=	=	Managing body fluids invest.	Body flora , Skin infection	T2+P2	2
=	=	Managing Septicemia	Blood culture	T2+P2	3
=	=	Rectal swab &stool exam.	GIT infections	T2+P2	4
=	=	Vaginal & urethral sampling	Female & Male Genital tract inf.	T2+P2	5
=	=	General urine examination	Urinary tract infection	T2+P2	6
=	=	Sputum culture	Respiratory tract infections 1	T2+P2	7
=	=	Respiratory culture interpret	Respiratory tract infections 2	T2+P2	8
=	=	Managing spinal fluid exam	CNS infections	T2+P2	9
=	=	Interpret. Culture results	Bone & Joint infections	T2+P2	10
=	=	Methods of diagnosis & Interp	Plural, pericardial, & peritoneal fluid	T2+P2	11
=	=	Methods for c/s.	Anaerobic infection	T2+P2	12
=	=	Advanced diagnostic tests	Advanced diagnostic tests	T2+P2	13
=	=	Antimicrobial Sensitivity tests	Antimicrobial Sensitivity tests	T2+P2	14
=	=	Final exam		T2+P2	15

1. Teaching Institution	College of Medicin\ University of Anbar
2. University Department/Centre	Department of Microbiology
3. Course title/code	English for PhD Students in Microbiology/ ME1811
4. Program(s) to which it contributes	PhD. in Medical Microbiology
5. Modes of Attendance offered	Classroom lectures
6. Semester/Year	Semester
7. Number of hours tuition (total)	15 hrs.
8. Date of production/revision of this specification	June 12, 2024
9. Aims of the Course	
This course aims to develop the academic skills necessary for success in higher education (PhD Program). "Headway Academic Skills, Level 3" is designed to enhance students' reading, writing, and critical thinking skills. The course focuses on academic texts, effective note-taking, essay writing, research skills, and presentations.	

11.course structure

Ass. Method	Teach Meth.	ILOs	Title	Hrs.	Wk.
Short exam	Lectures	Overview of course objectives, Diagnostic assessment, Introduction to reading strategies	Introduction to Academic Skills	T1	1
=	=	Skimming and scanning techniques, Identifying main ideas and supporting details, Chapter 1	Understanding Academic Texts	T1	2
=	=	Cornell method, mind mapping, outlining Practice exercises, Chapter 2 Reading	Note-Taking Strategies	T1	3
=	=	Techniques for effective paraphrasing, Writing summaries of academic texts, Chapter 3	Paraphrasing and Summarizing	T1	4
=	=	Introduction to essay structure (introduction, body, conclusion), Developing a thesis statement, Chapter 4	Essay Writing: Structure and Planning	T1	5
=	=	Argumentative essay techniques, Supporting arguments with evidence, Chapter 5 Reading:	Developing Arguments	T1	6
=	=	Midterm assessment	Midterm Review	T1	7
=	=	Finding and evaluating sources, Using library databases, Chapter 6 Reading	Research Skills	T1	8
=	=	Understanding different referencing styles (APA, MLA, etc.), Avoiding plagiarism Chapter 7 Reading: (specific pages)	Referencing and Plagiarism	T1	9
=	=	Combining research with original ideas Structuring a research paper, Chapter 8	Writing a Research Paper	T1	10
=	=	Planning and organizing presentations, Visual aids and public speaking tips, Chapter 9	Presentation Skills	T1	11
=	=	Conducting peer reviews Giving and receiving constructive feedback Chapter 10 Reading: (specific pages)	Peer Review and Feedback	T1	12
=	=	Individual or group project development Applying all learned skills -n-class support and guidance	Final Project Work	T1	13
=	=	Presentation of final projects Peer and instructor feedback	Final Presentations	T1	14
=	=	**Final assessment**		T1	15

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	
Minimum number of students	Three
Maximum number of students	Fifteen